DOCUMENT RESUME

ED 040 238 UD 010 163

AUTHOR Hamersma, Richard J.
TITLE Construction of an Attitude Behavior Scale of Blacks and Whites Toward Each Using Guttman Facet Design and Analysis.
PUB DATE 24 Mar 70
NOTE 15p.; Paper presented at the Annual Meeting of the American Personnel and Guidance Association, New Orleans, La., March 21-26, 1970

EDRS PRICE EDRS Price MF-$0.25 HC-$0.85
DESCRIPTORS *Attitude Tests, Caucasian Students, College Students, Discriminatory Attitudes (Social), Individual Characteristics, Individual Power, Measurement Instruments, *Measurement Techniques, Negro Attitudes, Negro Students, Psychological Testing, *Race Relations, *Racial Attitudes, *Social Attitudes

ABSTRACT

This paper deals with a scale of attitudes of whites towards blacks and blacks towards whites, constructed using Guttmann's methods of facet analysis. The source of the scale was the finding by the National Advisory Commission on Civil Disorders and other researchers that there was a consistent hierarchy of grievances in every major city surveyed. These grievances are believed to be strongly related to the attitudes held by blacks and whites in relation to each other. Using this information and the suggestions from personnel of the Urban Adult Education Institute and the Foundation for Racial Equality in Memory of Martin Luther King, Jr., in Detroit, scales were constructed dealing with seven attitude content areas identified as being of crucial importance for interracial interaction. These scales and other psychological measures were then administered to two populations of college students. The final composite scale was found useful for assessing racial attitudes. Additionally, it was found that a person's racial attitudes could be predicted. [Because of size of the print, tables 3 and 8 may not be clearly readable in hard copy reproduction.] (JM)

ED0402238

CONSTRUCTION OF AN ATTITUDE BEHAVIOR SCALE OF BLACKS AND WHITES TOWARD EACH USING GUTTMAN FACET DESIGN AND ANALYSIS

Meeting No. 204, March 24
AMERICAN PERSONNEL AND GUIDANCE ASSOCIATION
Annual Meeting
New Orleans, Louisiana
March 21 - 26, 1970

UD010163

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY.

by:

Richard J. Hamersma
Psychology Department
DePaul University
Chicago, Illinois 60604

INTRODUCTION

Measurement of attitudes toward intergroup relations, especially relations with minority groups, has long been a concern of the social sciences. The Black Man in America today constitutes one of the largest minority groups but is perhaps the least understood. During the last 30 years there has been some progress with regard to Negro civil rights demands, but there has been little comparable contemporary research on prejudice and attitude assessment and change accompanying this increased Black-White interaction. Identifying prejudicial attitudes and understanding intergroup relations is crucial for the success of any efforts to solve problems between different groups of people.

PROBLEM

Assessment of racial attitudes of Whites toward Blacks and Blacks toward Whites has taken various forms in the social sciences. Several well-known scaling techniques have been employed for this purpose as well as lesser known techniques. As Shaw and Wright (1967) state, even though a great amount of energy has been spent in research with attitude scales, it is an unfortunate fact that much of the effort has been wasted because of the lack of suitable instruments for the measurement of attitudes. Consequently, the researcher is often forced to develop a scale of his own which leaves him little time to do the actual research. Because of this lack of suitable instruments and the many available methods for attitude scale construction, most of the research is not directly comparable. In many cases, the concept of attitude is

defined differently from one study to another and as a result, these varying definitions of attitude(s) are then measured differently using more or less precise instruments as scales. The present paper deals with a social attitude scale that was constructed using Guttman's method of facet analysis.

Guttman (Stouffer, 1950) defined an attitude as "a delimited totality of behavior with respect to something". Guttman later (1959) divided this "delimited totality of behavior" into four levels using three facets in what he called a facet approach. This type of approach provides a rigorous, a priori, paradigm for item construction and analysis that can be applied to any intergroup situation.

Jordan (1968) constructed an attitude scale employing refinements and extensions of Guttman's proposals from a three-facet, four-level approach to a five-facet, six-level approach. Jordan (1968) found that in preliminary administrations of the instrument using the "mentally retarded" as the attitude object, the instrument yielded results consistent with Guttman's theory. A parallel instrument dealing with racial attitudes was non-existent. Tables[1] 1 - 4 illustrate Guttman's three-facet, four-level approach and Jordan's five-facet, six-level extension of this approach.

DESIGN OF THE STUDY

Using survey research techniques, the Report of the National Advisory Commission on Civil Disorders (1968) found a consistent hierarchy of grievances in every major city surveyed. As the commission stated, these

---

[1]All tables are from Hamersma (1969).

grievances were linked in a major way to the attitudes that Blacks and Whites hold in relation to each other. Other research (Brink & Harris, 1964; Brink & Harris, 1967; Shaw & Wright, 1967; CBS News, 1968; and Maccoby & Funkhouser, 1968) also mentioned several of the areas reported by the National Advisory Commission on Civil Disorders (1968). Using these sources, and the suggestions from personnel of the Urban Adult Education Institute and the Foundation for Racial Equality in Memory of Martin Luther King, Jr. in Detroit,[2] scales were constructed dealing with seven attitude content areas:

1. (C) Characteristics - Personal
2. (E) Education
3. (H) Housing
4. (J) Jobs
5. (L) Law and Order
6. (P) Political Activism-Racial
7. (W) War and Military

These seven areas of content were identified as of crucial importance for interracial interaction. Seven racial attitudes scales were constructed using Jordan's six level adaptation of Guttman's original paradigm (See Tables 1-4). Each of the seven scales contained all six levels but dealt with a different area of content. Fourteen items were constructed for each of the seven scales and each item was included in all six levels. Thus each of the seven scales contained 14 items and these 14 items were modified to fit across all six levels. Table 5 presents an item taken from one of the scales and illustrates how it was altered to fit the six levels. The scales were so constructed to be

---

[1]The Urban Adult Education Institute and the Foundation are concerned with providing adult education to people, mostly Blacks, who have not completed school. They provided assistance in several phases of the present study.

used with both Black and White respondents and the only alternation necessary for this was the reversal of the referent of either Black or White.

Two populations were involved in the study. The first population included subjects enrolled winter quarter, 1969, in Education 429 (Medical Information) at Michigan State University. The second population consisted of subjects of a Wayne State University course in social problems, and subjects interested in the Urban Adult Institute in Detroit where the Wayne State University course was held and who were for the most part college-educated. Another population of students enrolled in Education 450 (Teacher and Society), winter quarter, 1969, at Michigan State University was included but only partial analysis was conducted with this group. Each population contained both Black and White subjects. Samples from both populations were selected to complete all seven attitude content scales. Table 6 presents the number of subjects participating in each of the seven attitude scale areas on the ABS: BW/WN.

ANALYSIS OF THE DATA

Most of the data were analyzed using item analysis procedures since the basic intent of the research was of a test construction nature. These procedures were employed to select two items from each of the seven attitude scale areas and then to combine these selected items into one composite scale that could be used in further research.

Inter-item correlation matrixes were used to ascertain whether the items in a level or sub-scale were measuring of "tapping" the same thing or whether they were differentially contributing to the total score. Optimally, low inter-item correlations and high item-to-total correlations

are desired (Anastasi, 1968; Magnusson, 1966). Validity of a test, or level as in the present case, can be enhanced by including items with low inter-item correlations.

Item - to - total correlations were also run on the data. This type of analysis provided the basis for item selection for the final composite scale as well as providing indices of reliability and validity (see also Erb, 1969). Using item - to - total correlations for the most part, two items were statistically culled from each of the seven attitude scale areas and combined to make one general 14 item scale with each item being repeated across the six-level paradigm. The final scale was entitled the Attitude Behavior Scale: BW/WN-G. Table 7 contains the final 14 items selected.

Six substantive hypotheses were also formulated and tested in the study. H-2, Efficacy -- man's sense of control over his environment and H-5, Automation -- seeing change in industry as beneficial, received some support as predictors of favorable or unfavorable attitudes of one race toward the other. Other hypotheses included in the study received "fair" support across the seven scales. Table 8 presents a summary of these results.

SUMMARY

Results of the study indicate that the final composite scale constructed in the study is useful for assessing attitudes of Blacks toward Whites and Whites toward Blacks. The scale also provides opportunity to assess racial attitudes on different levels of behavior in inter-racial interaction.

Another type of implication of the research is that knowing a person's score on the variables of Efficacy (man's sense of control over his environment) and automation, it is possible to predict fairly accurately his attitudes towards the opposite racial group.

TABLE 1

Three facets and their corresponding elements contained in the semantic structure of an attitude item.

	A	B	C
Facets	Subject's Behavior	Referent	Referent's Intergroup Behavior
Elements	a_1 belief	b_1 subject's group	c_1 comparative
	a_2 overt action	b_2 subject himself	c_2 interactive

TABLE 2

Profile components, and descriptive labels associated with four types of attitudes items.

Level	Profile	Descriptive Label
1	$a_1b_1c_1$	Stereotype
2	$a_1b_1c_2$	Norm
3	$a_1b_2c_2$	Hypothetical Interaction
4	$a_2b_2c_2$	Personal Interaction

TABLE 3

Basic Facets[1] Used to Determine Conjoint Struction[2] of an Attitude Universe

(A) Referent	(B) Referent Behavior	(C) Actor	(D) Actor's Intergroup Behavior	(E) Domain of Actor's Behavior
a_1 others	b_1 belief	c_1 others	d_1 comparison	e_1 symbolic
a_2 self	b_2 overt action	c_2 self	d_2 interaction	e_2 operational

[1]As B qualifies A's behavior, so E qualifies C's behavior. Frequently, but not necessarily, A and C are identical. In such cases, B and E must be "consistent," i.e. some combinations seem illogical; B_1E_2. It should be noted that sometimes the subject filling out the questionnaire is identical with either referent or actor or both, but not necessarily so: i.e. in Level 1 and 2 referent and actor are identical, the subject is asked to report about them: in Level 3 the subject is identical with the referent, but not with the actor; in Level 4, 5, 6, subject, referent, and actor are identical. (See Fig. 2).

[2]Conjoint Struction: Operationally defined as the ordered sets of these five facets from low to high across all five facets simultaneously. The more subscript "2" elements a set contains, the greater the "strength" of the attitude. It should also be noted that not all combinations are logical. The selection of a "best" group of sets is still partly a matter of judgment. Two continua run through the facets: other-self and verbal-action.

John E. Jordan
Michigan State University
Louis Guttman
Israel Institute for
Applied Social Research
February 9, 1966

TABLE 4

Conjoint Level, Profile Composition, and Labels for Six Types of Attitude Struction

Subscale Type-Level	Struction Profile[1]	Descriptive Conjoint Term
1	$a_1\ b_1\ c_1\ d_1\ e_1$	Societal stereotype
2	$a_1\ b_1\ c_1\ d_2\ e_1$	Societal norm
3	$a_2\ b_1\ c_1\ d_2\ e_1$	Personal moral evaluation
4	$a_2\ b_1\ c_2\ d_2\ e_1$	Personal hypothetical action
5	$a_2\ b_2\ c_2\ d_2\ e_1$	Personal feeling
6	$a_2\ b_2\ c_2\ d_2\ e_2$	Personal action

[1]Based on facets of Table 3.

TABLE 5 An actual example taken from the ABS-WN-C scale illustrating the six-level structure and the directions for each level.

Level 1	Directions: Other Whites believe the following things about Whites as compared to Negroes: Item: Whites can be trusted with money (1. more than Negroes 2. about the same as Negroes 3. less than Negroes)
Level 2	Directions: Other Whites generally believe the following about interacting with Negroes: Item: For Whites to trust Negroes with money (1. usually not approved 2. undecided 3. usually approved)
Level 3	Directions: In respect to Negroes, do you yourself believe that it is usually right or wrong: Item: To expect Whites to trust Negroes with money is (1. usually wrong 2. undecided 3. usually right)
Level 4	Directions: In respect to a Negro person would you yourself: Item: Would you trust Negroes with money? (1. no 2. undecided 3. yes)
Level 5	Directions: How do you actually feel toward Negroes? Item: When Negroes trust Whites with money I feel (1. bad 2. indifferent 3. good)
Level 6	Directions: Experiences or contacts with Negroes: Item: I have trusted Negroes with money (1. no experience 2. no 3. uncertain 4. yes)

Note: This example is item number 3 on scale 1 (31 on scale 2, 59 on scale 3, 87 on scale 4, 115 on scale 5, and 143 on scale 6) from the Personal Characteristics (C) scale area and is meant for a White respondent (see Appendix A).

TABLE 6

Number of subjects participating in each of the seven attitude scale areas on the ABS: BW/WN.

Attitude Scale Areas	Education 429		Detroit Group	
	Whites	Blacks	Whites	Blacks
1. (C) Characteristics[a]	419	19	11	11
2. (E) Education[a]	365	14	23	19
3. (H) Housing	32	6	15	16
4. (J) Jobs	42	4	21	19
5. (L) Law and Order	28	6	13	10
6. (P) Political	61	8	12	10
7. (W) War and Military	36	6	13	11

[a]Both the Characteristics and Education scale areas include the Black and White subjects from Education 450 in the Education 429 group. The Black subjects, from the Education 450 course, were included in the analysis of the Education 429 group, but the White subjects were analyzed separately.

TABLE 7 Items for revised ABS: WN/BW-G.[a]

New Scale No.	Area and Original[b] No.	Items for Revised General[a] (G) Scale[c]
1	C (3)	--can be trusted with money
2	C(23)	--families are closely knit
3	E(1)	--intellectual ability
4	E(7)	--desire a higher education
5	H(19)	--help their neighbors
6	H(27)	--neighborhoods are safe
7	J(7)	--obey job rules and regulations
8	J(11)	--enjoy working with . . .
9	L(15)	--resist arrest
10	L(27)	--are the victims of "police brutality"
11	P(11)	--misuse trial-by-jury
12	P(15)	--vote for . . . candidates for public office
13	W(11)	--desire draft deferments
14	W(19)	--are careful with their weapons

[a]See Appendix C for revised "G" scale. G = a general overall measure composed of two items from each of the seven attitude scale areas.

[b]See Appendix A for original scale and item numbers.

[c]Copyrighted by Hamersma and Jordan.

TABLE 8

Summary[a] of hypotheses 2-7 indicating N's, means, and size of correlation.

Hypotheses			Attitude Scale Areas																		
			C			E			H			J			L & O			P			W & M		
			N[b]	M[c]	r[d]	N	M	r	N	M	r	N	M	r	N	M	r	N	M	r	N	M	r
H-2	Efficacy	W[e]	70	24.43	.24[a]	67	23.90	.20	47	24.38	.00	63	24.03	-.27	41	24.24	-.01	72	24.63	.27[a]	49	24.71	-.09
		B[f]	29	23.03	.21	32	22.25	.38[a]	22	23.31	.35	23	22.73	.43[a]	16	23.62	.28	18	23.33	.26	17	24.03	.01
H-3	Rel. Imp.	W	71	4.12	.02	67	4.08	-.20	47	4.02	.04	63	4.07	-.25[a]	41	4.00	.10	73	4.15	.07	49	4.06	.09
		B	30	3.93	.00	33	3.88	.01	22	4.16	.16	23	4.08	.49	16	4.25	.01	18	4.22	-.03	17	4.17	.41
H-4	Child Rearing	W	71	2.81	.03	67	2.84	-.38	47	2.74	.11	62	2.80	-.19	41	2.75	-.15	73	2.80	.15	49	2.79	-.30
		B	30	2.97	.44[a]	33	3.00	.15	22	3.13	.35	22	3.18	.23	16	3.18	.35	18	2.88	.08	17	3.05	.11
H-5	Automation	W	71	3.26	.07	67	3.33	.01	47	3.34	.19	63	3.33	.05	41	3.24	.16	73	3.31	.08	49	3.24	.14
		B	30	3.03	.46[a]	33	2.97	.24	22	3.18	.27	23	3.17	.21	16	3.18	.66[a]	18	3.11	.24	17	3.23	-.26
H-6	Age	W	71	2.87	-.03	67	2.90	-.23[a]	47	3.00	.01	63	2.92	-.05	41	3.02	-.09	73	2.89	-.06	49	2.91	-.07
		B	30	2.33	.04	33	2.67	.19	22	3.08	.23	23	2.65	.19	16	2.56	.29	18	2.55	.43	17	2.47	-.21
H-7	Local Aid	W	71	2.81	.21	67	2.93	.12	47	2.78	.30[a]	63	2.95	.02	41	2.90	.25	73	2.83	.09	49	2.89	.14
		B	30	2.67	-.14	33	2.88	-.11	22	2.77	-.43	23	2.87	-.09	16	2.43	-.40	18	2.72	-.25	17	2.58	.07

[a]See Tables 33-48 for original data from which these data were taken.
[b]Sample size. [c]Means. [d]Correlation size. [e]White group. [f]Black group.
[a]$p < .05$.

REFERENCES

Anastasi, A. Psychological Testing. New York: MacMillan, 1968.

Brink, W. J., & Harris, L. Black and White: A study of U. S. racial attitudes today. New York: Simon and Schuster, 1967.

Brink, W. J., & Harris L. The Negro revolution in America. New York: Simon and Schuster, 1964.

Campbell, A., & Schuman, H. Racial attitudes in fifteen American cities. Supplemental studies for the national advisory commission on civil disorders. Government Printing Office, June, 1968.

CBS News. White and Negro attitudes toward race related issues and activities. New York: CBS, 1968.

Erb, D. L. Racial attitudes and empathy: A Guttman facet theory examination of their relationship and determinants. Unpublished doctoral dissertation, Michigan State University, 1969.

Guttman, L. The problem of attitude and opinion measurement. In S. A. Stouffer (Ed.), Measurement and prediction. Princeton: Princeton University Press, 1950. Pp. 46-59.

Guttman, L. A structural theory for intergroup beliefs and actions. American Sociological Review, 1959, 24, 318-328.

Hamersma, R. J. Construction of an attitude-behavior scale of Negroes and Whites toward each other using Guttman facet design and analysis. Unpublished doctoral dissertation, Michigan State University, 1969.

Hovland, C. I. & Sherif, M. Judgmental phenomena and scales of attitude measurement: Item displacement in Thurstone scales. Journal of Abnormal and Social Psychology, 1952, 47, 823-828.

Jordan, J. E. Attitudes toward education and physically disabled persons in eleven nations. East Lansing: Latin American Studies Center Michigan State University, 1968.

Maccoby, N. & Funkhouser, G. R. How do you see the city? Psychology Today, 1968, 2, 47-50.

Magnusson, D. Test theory. Palo Alto: Addison-Wesley, 1966.

Proenze, L., & Strickland, B. R. A study of prejudice in Negro and White college students. Journal of Social Psychology, 1965, 67, 273-281.

Report of the national advisory commission on civil disorders. New York: Bantam Books, Inc., 1968.

Shaw, M. E., & Wright, J. M. Scales for the measurement of attitudes. New York: McGraw-Hill, 1967.

Stouffer, S. A. (Ed.) Measurement and prediction. Princeton: Princeton University Press, 1950.